

Notice of Allowability

Application No.

10/674,375

Applicant(s)

HSU ET AL.

Examiner

Art Unit

Pierre-Michel Bataille

2186

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/30/03.
2. ☒ The allowed claim(s) is/are 1-33.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>9/30/03</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Allowable Subject Matter

1. Claims 1-33 are allowed.
2. The following is an examiner's statement of reasons for allowance: the present invention features a system and method optimizing storage of common data block within a networked storage system.

Closed related art:

US 20040103254 teaches, in a storage apparatus system including a plurality of remote copy ports for executing remote copy processing, a controller deciding how much the remote copy processing is entrusted to the remote copy port selected so that the number of remote copy pairs assigned to the remote copy ports selected is balanced after reassignment of the remote copy requests.

US 4,974,156 teaches a directory and other data structures indicating the number of copies made of each named data object and the location of such copies, such that host processor can independently access a copy from any level of the data storage hierarchy.

US 6,728,831 teaches determining the maximum number of full and mirror only partners that a disk drive may have from any failure group with performance and reliability characteristics that are different from the underlying disk drives.

US 6,401,120 teaches comparing the number of replica members in the replica set with a total number of replica members configured to operate in the cluster; and forming the cluster if the number of replica members in the replica set is a quorum of the total number of replica members.

20040145986 provides (with reference to FIG. 1) a monitoring system for monitoring production of optical disks by replication machines at a number of different production facilities in order to determine the number of copies produced by the machines.

US 6,128,654 teaches method comprising the steps of storing sets of data in a memory, generating a data identifier that identifies each set of data, and determining the number of copies of the set of data that are to be transmitted.

However, none of the prior art of record teaches or renders obvious the features of the claims: specifically

determining an optimal number of copies of received data block to store in a networked storage system, wherein the determining is made according to and the number of copies of the data block existing within the networked storage system and the number of copies of the data block the networked storage system is

entrusted to store in combination with identified performance and reliability requirements of the networked storage system.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

3. Other prior art made of record and not relied upon, but considered pertinent to applicant's disclosure:

Veritas Software Corp., "Veritas Volume Manager (V.times.VM) System Administrator's Guide, Release 2.3," Aug. 1996.

Liebeherr et al., "A Versatile Packet Multiplexer for Quality-of-Service Networks", Proceedings of the 4th IEEE International Symposium on High Performance Distributed Computing Systems, 1995.

Bernstein et al., "Replicated Data", Concurrency Control and Recovery in Database Systems, Chapter 8, Addison-Wesley Publishing Company, pp. 265-311 (1987).

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pierre-Michel Bataille whose telephone number is (571) 272-4178. The examiner can normally be reached on Mon-Fri (8:00A to 4:30P).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew M. Kim can be reached on (571) 272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Pierre-Michel Bataille
Primary Examiner
Art Unit 2186

February 15, 2005

PIERRE BATAILLE
PRIMARY EXAMINER